



Data Sheet

# Single-phase M-Combiner MC100



## Key Features

### Safety & Reliability

- IP65 design for indoor and outdoor installations
- Reliability verification in extreme scenarios
- Reinforced insulation for improved safety

### High Power Capability

- Max. PV power of 10 kW
- Max. battery capacity of 21 kWh<sup>a</sup>

### Flexibility & Intelligence

- Remote management of home electricity
- Bi-directional communication between devices and Atmoce-Cloud
- All-in-one app to guide the installation and configuration

### Easy Installation

- Pre-installed and pre-connected
- Easy system activation by using the Atmozen app
- Lightweight design



a. The battery nominal output power will be limited to 11.5 kW due to the 63A rated circuit breaker inside the M-Combiner.

| Items                               | Unit            | MC100  |
|-------------------------------------|-----------------|--|
| What's in the combiner              |                 |  |
| M-Gateway MG100                     |                 | 1 × MG100  |
| SPD                                 |                 | 1 × unit, In: 20 kA, 2-pole                                      |
| SPD breaker                         |                 | 1 × unit, 25 A, 2-pole   |
| Gateway breaker                     |                 | 1 × unit, 10 A, 2-pole   |
| PV-side breaker <sup>b</sup>        |                 | 2 × units, 20 A, 2-pole  |
| Grid-side breaker                   |                 | 1 × unit, 63 A, 2-pole, RCD 30 mA                                |
| Battery-side breaker                |                 | 1 × unit, 63 A, 2-pole   |
| Microinverter CT                    |                 | 1 × CT, accurate up to 0.1%                                      |
| Battery CT                          |                 | 1 × CT, accurate up to 0.1%                                      |
| Consumption CT interface            |                 | 1 × CT signal interface, accurate up to 0.1%                     |
| M-Relay MR100-S                     |                 | 1 × unit, 50 A <sup>c</sup> , 2-pole                             |
| Electrical parameters               |                 |  |
| Grid setup                          |                 | Single-phase   |
| Nominal voltage                     | V               | 220/230/240  |
| Operating voltage range (L to N)    | V               | 184 to 276   |
| Nominal frequency                   | Hz              | 50/60  |
| Extended frequency range            | Hz              | 45 to 65   |
| Max. PV branch                      |                 | 2  |
| Max. PV current/branch <sup>d</sup> | A               | 20   |
| Max. battery current                | A               | 63   |
| Max. battery capacity               | kWh             | 21   |
| Nominal CT current                  | A               | 80   |
| Overtoltage category                |                 | III  |
| Mechanical parameters               |                 |  |
| Dimensions (W x H x D)              | mm              | 389 × 616 × 127  |
| Weight                              | kg              | 6.8  |
| Ambient temperature range           | °C              | -30 to 50  |
| Cooling                             |                 | Natural convection   |
| Enclosure environmental rating      |                 | Outdoor, IP65  |
| Power cable sizes <sup>e</sup>      | mm <sup>2</sup> | PV side: 2.5 to 4<br>Grid side: 6 to 10<br>Battery side: 6 to 10 |
| Communication cable sizes           | mm <sup>2</sup> | 0.25 to 0.75   |
| Communication                       |                 | PLC, Wi-Fi, BLE, ETH, CAN, RS485                                 |

b. The standard configuration of the PV-side breaker is 20A, which can be replaced with a 25A rated circuit breaker, supporting a maximum of 10kW.

c. The maximum current is 50A, for further technical specifications please refer to the 'M-Relay Data Sheet'.

d. The capacity of the PV branch current can be increased to 25A by replacing the PV side breaker to 25A.

e. Refer to the local electrical regulations to select the cable size.

| Items                    | Unit        | MC100   |
|--------------------------|-------------|---|
| Noise                    | dB          | <25   |
| Altitude                 | m           | 3000  |
| Protection class         |             | II  |
| Pollution degree         |             | III   |
| -----                    |             |   |
| Communication interfaces |             |   |
| -----                    |             |   |
| PV side                  | PLC         | Support                                       |
| Grid side                |             | 1 × interface for consumption CT              |
| Battery side             | CAN         | Support                                       |
| Load side                | ETH         | 1 × interface, 100 Mb/10 Mb auto-adaptability |
|                          | Digital I/O | 4 × 12 V DO, 3 × DI                           |
|                          | RS485       | Support                                       |
| Atmoce-Cloud             | Wi-Fi       | 2.4 GHz                                       |
|                          | ETH         | 1 × interface, 100 Mb/10 Mb auto-adaptability |
| Atmozen app              | BLE         | 2.4 GHz                                       |
| Indicators               |             | 3 × LEDs                                      |
| -----                    |             |   |
| Compliance               |             |   |
| -----                    |             |   |
| Safety                   |             | IEC 61439-1/-2                                |
| Health                   |             | IEC 62311                                     |
| EMC                      |             | EN 301 489-1/-17, IEC 61000-6-1/-2/-3/-4      |
| Radio spectrum           |             | EN 300 328                                    |
| PLC                      |             | EN 50065-1/-2                                 |